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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,097	06/16/2006	Ulrike Licht	291599USOX PCT	1254
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
FRANK, NOAH S				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/583,097

Applicant(s)

LICHT ET AL.

Examiner

NOAH FRANK

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 12-14 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Antonietti et al. (US 2002/0032242).

Considering Claims 1 and 7: Antonietti et al. teaches polyaddition reactions in miniemulsions (§10006) to produce aqueous dispersions (§10007). The polyaddition reactions are also suitable for preparing particles which comprise polyadducts and, encapsulated therein, inert particulate solids (§10014). The polyadducts are comprised of the reaction product of isophorone diisocyanate, neopentyl glycol (polyhydric alcohol, C=5) (§10048), and water (§10045).

Considering Claim 2: Antonietti et al. teaches the particle sizes being from 200 to 230 nm (§10045).

Considering Claim 3: Antonietti et al. teaches the pigment being organic materials or carbon black (§10014).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Antonietti et al. (US 2002/0032242), as applied to claims 1-3, further in view of Tiarks et al., "Encapsulation of Carbon Black by Miniemulsion Polymerization", Macromol. Chem. Phys., Vol. 202, No. 1, Pages 51-60, 2001.

Considering Claim 4: Antonietti et al. teaches the basic claimed process as set forth above.

Antonietti does not teach using the pigment in predispersed form. However, Tiarks et al. teaches encapsulating carbon black by miniemulsion polymerization wherein the carbon black is dispersed in water prior to monomer addition (p54). Antonietti and Tiarks are combinable because they are from the same field of endeavor, namely miniemulsion polymerization. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used predispersed pigment, as taught by Tiarks, in the invention of Antonietti, in order to encapsulate a higher amount of pigment (p54 of Tiarks).

Considering Claim 5: Antonietti et al. teaches hydrophobicizing (attaching hydrophobic compounds to the surface) the pigments by using the reactants of the polyaddition process (§10014).

Claims 6, 8, 10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonietti et al. (US 2002/0032242), as applied to claims 1-3 and 7, further in view of Licht et al. (US 2003/0105223).

Considering Claim 6: Antonietti et al. teaches the basic claimed process as set forth above.

Antonietti does not teach free-radical polymerizable monomers as component (c). However, Licht et al. teaches polyurethane dispersions ($\text{¶}0001$) comprising components that carry functional groups such as olefinic groups ($\text{¶}0037$), which are free-radically polymerizable. Antonietti and Licht are combinable because they are from the same field of endeavor, namely aqueous polyurethane dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used free-radically polymerizable monomers, as taught by Licht, in the invention of Antonietti, in order to crosslink the aqueous dispersion via free radical polymerization.

Considering Claim 8: Antonietti et al. teaches using 30.1g of water in $(3.5+0.25+30.1+0.15)\text{g}$ of dispersion $(30.1/34=88\% \text{ water})$ ($\text{¶}0058$).

Considering Claims 10 and 12-14: Antonietti et al. teaches using the dispersions in all areas in which polyurethane dispersions are already currently in use, i.e, in particular, in adhesives, topcoats, and coating materials ($\text{¶}0005$).

Antonietti does not teach using the dispersions for finishing leather or textile printing. However, Licht teaches using the dispersions for coating a variety of substrates such as wood, metal, plastics, paper (fibrous substrate), leather or textile, and for

impregnating textiles (as a print paste) (§0091). At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the dispersions to finish leather and/or impregnate textiles, as standard uses of polyurethane dispersions.

Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Antonietti et al. (US 2002/0032242) in view of Licht et al. (US 2003/0105223), as applied to claims 6, 8, 9-14, further in view of Kiljstra et al. (US 5,969,002).

Considering Claim 16: Antonietti et al. teaches the basic claimed process as set forth above.

Antonietti does not teach using the dispersions for producing inks for the inkjet process. However, Kiljstra et al. teaches pigment and polyurethane preparations useful as printing inks for inkjet printing (Abs). Antonietti and Kiljstra are combinable because they are from the same field of endeavor, namely pigmented polyurethane dispersions. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the dispersions as printing inks for inkjet printing, as a standard use of polyurethane dispersions.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonietti et al. (US 2002/0032242), as applied to claims 1-3 and 7, further in view of Topham et al. (US 3,560,235).

Considering Claims 17-18: Antonietti et al. teaches the basic claimed process as set forth above.

Antonietti does not teach recovering the ensheathed pigments by a drying process. However, Topham et al. teaches urethane coated pigments in dispersion (1:10-35) that are filtered off, washed, and dried (3:65-70). Antonietti and Topham are combinable because they are from the same field of endeavor, namely polyurethane modified pigments. At the time of the invention a person of ordinary skill in the art would have found it obvious to have filtered and dried the pigments, as taught by Topham, in the invention of Antonietti, in order to extract the polyurethane modified pigments.

Response to Arguments

Applicant's arguments filed 7/25/08 have been fully considered but they are not persuasive.

Applicant has argued that Antonietti does not teach ensheathing the pigment. The applicant has pointed to the fact that Antonietti states that, "it is possible to achieve efficient embedding of particulate solids into the shell of polyadducts" (§0015). However, it appears that the "shell of polyadducts" refers to the unreacted miniemulsion. Antonietti goes on to describe the "homogenous encapsulation" of the polyadditions, which infers a fully ensheathed pigment. Furthermore, Antonietti claims, "A method of conduction polyaddition reactions in miniemulsions, characterized in that a miniemulsion comprising the reactants of the polyaddition reaction is produced in a fluid medium *and then brought to reaction*" (Claim 1), and the method wherein the, "emulsion further comprises particulate solids dispersed therein" (Claim 11). This implies that the pigment is dispersed within polyaddition reactants prior to reaction.

In response to applicant's question regarding the rejection in view of Kijstra, the Examiner accidentally omitted Kijstra from the 892 form, and did intend to make the rejection.

In response to applicant's arguments regarding the remaining rejections, please see the argument above regarding Antonietti.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **NOAH FRANK** whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./
Supervisory Patent Examiner, Art Unit 1796
30-Sep-08

NF
9-23-08